



# City of Austin

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Watershed Protection Department  
P.O. Box 1088, Austin, Texas 78767

August 13, 2014

Texas Department of Transportation  
Austin District  
Attn: Stacey Benningfield  
P.O. Drawer 15426  
Austin, TX 78761-5426

Dear Ms. Benningfield:

The City of Austin's comments on the State Highway 45 Southwest (SH45 SW) draft Environmental Impact Statement (DEIS) are attached for your review and consideration. The City appreciates being included as a participating agency in the environmental review and for the discussions between our organizations over the past year regarding the City's concerns about this project. As City staff has stated many times, decisions about the proposed roadway should be based on the best available scientific and engineering information analyses. We hope that the comments we are providing on the DEIS are helpful in meeting our shared goals of protecting the very sensitive environment in the area and providing effective transportation for Austin and surrounding areas.

As discussed in the July 23, 2014 letter from Austin City Manager Marc Ott, the City finds that the DEIS does not adequately demonstrate that impacts to the natural and human environment will not be significant. There are ongoing environmental studies, including TXDOT's own karst survey, that are likely to provide information critical to a thorough assessment of the environmental impacts of the proposed project. The DEIS falls short in its consideration of project alternatives, in the transportation analysis, in the evaluation of the effectiveness of temporary and permanent water quality controls, and in its assessment of potential impacts to endangered species, sensitive karst features, groundwater, and surface water. Without adequate scientific and engineering analyses, a proper assessment of sensitive environmental features, and a more rigorous analysis of best practices to minimize water quality degradation, the DEIS is incomplete and does not meet the standards in state law for a Finding of No Significant Impact (FONSI). Furthermore, it does not reach the publicly stated goal that SH45 SW will be the most environmentally sensitive road ever built in Travis County.

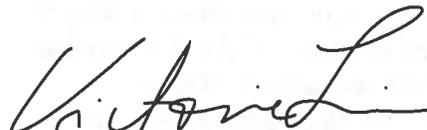
Of particular concern to the City is protection of Flint Ridge Cave, a cave protected under Austin and Travis County's federal Balcones Canyonlands Conservation Plan permit (BCCP). Because Flint Ridge Cave is designated in the BCCP as mitigation for development activity in large areas of western Travis County, the level of protection necessary is higher than other similar, but not protected, karst features. The DEIS does not currently demonstrate how the project will achieve that level of protection.

In meetings with TXDOT and the Central Texas Regional Mobility Authority (CTRMA) there have been discussions about incorporation of water quality controls to achieve a non-degradation water quality standard equivalent to that required for new development in this area. The water quality controls and standards described in the DEIS will not achieve that level of water quality protection. The City would like TXDOT and CTRMA to consider adoption of water quality treatment standards that meet the community's standard-of-practice for non-degradation. There may be opportunities for the City, TXDOT, and CTRMA to work together to reduce the impact to the project of meeting this standard and provide a superior level of environmental protection than is currently proposed. We suggest that a small group from the Technical Work Group could work directly with the project design team to discuss how the project could achieve a non-degradation water quality standard.

The City has requested that the DEIS be withdrawn, revised, and re-published to allow this important additional work to be completed. If that is not feasible, the City would welcome an opportunity to participate in an alternative process to incorporate pending environmental studies and enhanced environmental design standards into the environmental impact analysis and in the design of the roadway.

Again, we appreciate the cooperation and consideration TXDOT and CTRMA have provided the City over the last year as this project moved through initial assessment and design. We realize that TXDOT and CTRMA have many projects underway or proposed in the Austin area and we look forward to working together to improve mobility throughout the region. Our staff is available to meet with the TXDOT and CTRMA project team to review and further discuss our comments. The City's lead for the SH45 environmental review is Chuck Lesniak, the City's Environmental Officer. Please contact him at your convenience at (512) 974-2699 with any questions or to arrange a meeting to discuss the City's comments.

Sincerely,

  
Victoria J. Li, P.E., Director  
Watershed Protection Department

  
Rob Spillar, P.E., Director  
Transportation Department

Attachment

Cc: Marc Ott, City Manager  
Sue Edwards, Assistant City Manager  
Robert Goode, Assistant City Manager  
Chuck Lesniak, Environmental Officer  
Mike Personett, Watershed Protection Department  
Willy Conrad, Austin Water  
Mitzi Cotton, Law Department



## **Comments on the Draft Environmental Impact Statement for the Proposed State Highway 45 Southwest**

**City of Austin, Texas**

### **1.0 Introduction**

On June 27, 2014 the Texas Department of Transportation (TxDOT) published for public comment a draft Environmental Impact Statement (DEIS) for the proposed State Highway 45 Southwest (SH45 SW). The DEIS identifies a “preferred alternative”, which would involve the construction of a limited access tolled roadway consisting of four lanes, shoulders, and a shared-use path for pedestrians and bicyclists. The preferred alternative would traverse approximately four miles of currently undeveloped land within in an existing state-owned right-of-way and would connect the southern terminus of MoPac (Loop 1) with FM1626. A public hearing to accept public comment on the DEIS occurred on July 29, 2014 and the public comment period on the DEIS is scheduled to close on August 13, 2014. The final EIS (FEIS) and a record-of-decision (ROD) are anticipated in early 2015.

The preferred alternative is the latest incarnation of what was once referred to as Segment 3A of the Austin Outer Parkway (a.k.a. outer loop) that was first proposed in the mid-1980s. The City of Austin (the City) has long had an interest in the proposed project, both in terms of its potential effects on regional mobility and its potential adverse impacts on sensitive environmental resources. For the current environmental review process, the City requested and received participating agency status and in that request the City stated its readiness “...to assist with a careful and thorough evaluation of the SH45 SW project through the Federal environmental review process prescribed by the National Environmental Policy Act (NEPA).” Previously, in comments submitted by the City on the scope of the environmental review (document dated October 8, 2013), the City reiterated the importance of there being “...a full and balanced evaluation of the potential benefits, costs, mobility and environmental impacts of SH45 SW and its alternatives, including alternative alignments, improvements to existing roadways and the ‘no build’ alternative.”

Technical and management staff representing three City departments (Transportation, Water, and Watershed Protection) have thoroughly reviewed the DEIS and are of the general opinion that it falls well short of the City's stated expectations that there be an objective, balanced, and thorough review of the potential environmental impacts of the project based on the best available scientific information and engineering analysis. Overall, the City believes the DEIS is fundamentally flawed, and that some of the flaws are the result of deficiencies in process while many others are of a technical nature. Accordingly, in a letter from the City Manager to TxDOT dated July 23, 2014, the City formally requested that the DEIS be withdrawn and reissued only when its many significant flaws and deficiencies have been adequately addressed.

Discussed below are the City's most significant comments and concerns about the DEIS, as well as suggestions about how to address its shortcomings. Additional detailed comments on the DEIS, appendices, and supporting documents are attached.

## **2.0 Deficiencies in the Environmental Review Process**

The City believes that the environmental review process as a whole, and the resulting DEIS, is fundamentally flawed in that it appears to have been predisposed to a finding that the preferred alternative is needed, will provide significant mobility benefits, and that it can be constructed and operated without significant impacts to sensitive environmental resources. Specifically, the City views the process itself to be flawed on the basis of the following:

- The environmental review was to have been conducted under the Federal NEPA, but actions were taken to shift allocated Federal funding out of the budget to enable the environmental review to proceed under State regulations. This was done with the publicly stated objective of expediting the environmental review process. Also, during the course of the environmental review process project funding agreements have been executed with Travis and Hays counties and the presumed implementing agency, the Central Texas Regional Mobility Authority (CTRMA), has initiated a procurement process for engineering design services well in advance of the draft EIS, which could limit the ability of the chosen design engineer to incorporate the requirements of the EIS..
- The formulation and evaluation of alternatives is developed in such a way as to favor the preferred alternative. This is discussed further below.
- The DEIS was issued prior to the completion of several critically important investigations that are either currently underway or only recently completed and not fully documented, the results of which may influence the key findings in the DEIS. Further, the published schedule for the FEIS and ROD will not allow time for completion of all ongoing studies in time for the results to be considered in the FEIS. These studies described below.
- With the exception of the indirect effects analysis, the defined study area for the environmental review is limited to the areas in immediate proximity to the right-of-way. To ensure a thorough review of potential impacts and alternatives, the study area should be expanded to include Slaughter Lane and the entirety of Brodie Lane south of Slaughter and east to Manchaca Road and west to the Oak Hill area.
- While there has been a "participating agency" process that has included the City of Austin and other governmental entities, it has not been as robust as might have been expected for a project with such a long history of controversy and with very well-known concerns about the environmental sensitivity of the project area. The Technical Working Group and its subgroups on

karst and water quality protection have not met frequently or long enough to fully delve into these complex issues in a fully collaborative manner. For example, the TxDOT and City of Austin personnel were to have collaborated closely to refresh an engineering analysis of stormwater treatment strategies previously conducted. This collaboration did not occur. Also, City staff has repeatedly suggested that a single technical working group be established to address common issues of concern about other potential TxDOT/CTRMA roadway projects that are within the Barton Springs Zone (BSZ) of the Edwards Aquifer (i.e., the Oakhill Parkway and potential expansion of South MoPac including the intersections at Slaughter Lane and La Crosse Avenue).

- On several occasions in Technical Work Group meetings and other forums, City staff has suggested that the environmental review of the proposed SH45 SW be looked at in a broader regional context. Specifically, the City has concerns about the potential cumulative impacts of the aforementioned major roadway projects on the quality of water recharging the BSZ, in the aquifer, and at Barton Springs. This suggestion was not addressed in the DEIS.

### **3.0 Compatibility with the City's Comprehensive Land Use Plan – Imagine Austin**

The City of Austin's Charter requires adoption of a comprehensive plan that includes the City's policies for growth and development of land within the corporate limits and the extraterritorial jurisdiction of the City. In June 2012, the Austin City Council, after nearly three years of extensive community involvement and input, adopted a new comprehensive land use plan, known as the *Imagine Austin Comprehensive Plan* (IACP). The IACP provides a vision to guide the City's development and re-development over a 30-year period. Central elements of that vision are that Austin will become more compact and connected and that the City will sustainably manage natural resources, preserve and protect environmentally sensitive areas, and integrate nature into the City.

In terms of the proposed SH45 SW project, the IACP is clear that the City does not support the project. Of particular note is that the SH 45 SW connection was purposefully excluded from the Roadway Networks (Figure 4.4) and Growth Concept (Figure 4.5) maps of the adopted IACP. In addition, the following "priority actions" are called out in the IACP:

- *"Ensure consistency between the Growth Concept Map Series and regional transportation plans by amending the Austin Metropolitan Area Transportation Plan to remove SH 45 SW and requesting its removal from the Capital Area Metropolitan Planning Organization 2035 Regional Transportation Plan."* (Policy Action LUT A46)
- *"Protect Austin's natural resources and environmental systems by limiting land use and transportation development in sensitive environmental areas and preserving areas of open space."* (Policy Action LUT P22)

On May 15, 2014 the Austin City Council adopted a resolution (CR20140515-022) which acknowledges the conflict between the IACP and "...confirms its serious concern about the proposed SH45 SW toll road based on currently available information.". The DEIS should disclose and acknowledge that SH45 SW is in conflict with Austin's comprehensive plan and because most of the road is within Austin's jurisdiction the DEIS should consider how SH45, if built, could address the goals of the IACP.

#### 4.0 Purpose and Need

State regulations require that all reasonable alternatives that meet the stated purpose and need for a roadway project be evaluated in the environmental review process (43 TAC 2.84). As described in the DEIS, the purpose and need for the project appears to be based solely on projected future travel delays and does not give adequate consideration to the need to increase the capacity of the larger roadway network in the area. In the DEIS the “need” or justification for the project is based on the results of modeling that “...indicate that travel times along existing routes in northern Hays and southern Travis Counties in 2035 are projected to be nearly 80 percent longer on average than observed travel times in 2014.” The DEIS goes on to conclude that the construction of the preferred alternative will reduce travel times on non-tolled roadways by approximately 23 to 28 percent. Contrary to the implications of the DEIS, commuters passing through and residents of the area will not experience relief from future congestion. In fact, modeling indicates that under the preferred alternative, projected travel times along non-tolled roadways are reduced approximately 25 percent below those projected without the tollway. This is still an increase of roughly 60 percent by 2035 rather than the 80 percent increase with the road project. A 60% increase in travel time is a significant increase and raises the question as to whether the preferred alternative is a wise investment in terms of its financial and environmental costs versus projected mobility benefits and whether there are other alternatives with the potential to achieve equal or greater mobility benefits with less cost and/or risk of irreversible environmental impact.

#### 5.0 Alternatives Analysis

The DEIS is also generally lacking in a thorough analysis of alternatives and consideration of “system” impacts and does not provide sufficient detail for the reader to understand the analysis of alternatives. Specific concerns about the definition and analysis of alternatives are:

- Of the preliminary roadway construction alternatives considered, aside from the “Upgrade Existing Roadways” preliminary alternative, the remaining two are tollways either on a new location or the existing state-owned right-of-way. This improperly slants the analysis in favor of the preferred alternative as the ROW already exists.
- To meet stated purpose and need, the DEIS “Upgrade Existing Roadways” preliminary alternative identified a four lane highway with frontage roads and a 300-foot ROW. Frontage roads are necessary because the adjacent land along existing roadways is already developed. Expansions to Brodie Lane, Slaughter Lane, and Manchaca Road were eliminated as alternatives because the potential impact of a four lane highway with frontage roads will have 167 total relocations/displacements (Brodie/Slaughter) or 225 total relocations/displacements (Manchaca-FM2304/Slaughter). Although the DEIS states “*residential and commercial relocations could potentially be reduced...it would not be possible to totally eliminate all relocations....this alternative is not considered reasonable and was eliminated from further consideration.*” (DEIS, p. 18). With reduced ROW, displacements could be reduced but to what extent remains unknown as it was eliminated from further consideration.
- The potential to maximize existing roadways as urban arterials should have, but was not, fully considered. While cost is a major consideration in any improvements within the existing roadway corridors, 3-, 4-, or even 5-lane cross sections with signalized intersections or non-signalized continuous flow intersections could be viable and might provide relief to congestions and alter travel times similar to what might be accomplished by the current preferred alternative.

- The DEIS did not provide sufficient technical analysis of the alternative to demonstrate an ability to satisfy the stated purpose and need.
- The DEIS fails to consider the individual or collective costs, benefits, and impacts of an “arterial solution” involving additional multiple routes (e.g., Brodie Lane, Manchaca Road, South 1<sup>st</sup> Street, FM 1626).
- The DEIS fails to adequately consider and evaluate the potential to improve mobility through the implementation of Transportation System Management (TSM) and Transportation Demand Management (TDM) strategies, both individually and in combination with the potential improvements described generally above.

## 6.0 Independent Utility and Cumulative Impacts

According to the DEIS, the proposed project is said to have “independent utility” as a stand-alone transportation improvement that is not dependent upon other transportation improvements in the area. While this finding may be correct based on a strict application of the State’s definition of “independent utility”, it is apparent that in reality the proposed project is not independent but rather is part of a larger, interconnected regional transportation network. This is evidenced in part by the fact that the project is included in the Capital Area Metropolitan Planning Organization (CAMPO) 2035 Regional Transportation Plan which “...*identifies the construction of SH 45SW between FM 1626 and MoPac as part of the region’s transportation improvements*” and that the proposed project is expected to “...*contribute to improving the overall function of the transportation system in this area.*” (DEIS Chapter 1- Purpose and Need for the Action p. 10) Modeling to evaluate the projected mobility benefits of the preferred alternative was conducted at a regional scale with the assumption that all related improvements included in the CAMPO 2035 Regional Transportation Plan are in place and operational. These include potential major improvements to South Loop 1 (i.e., addition of managed lanes, reconfiguration of intersections on South Loop 1 at Slaughter Lane and LaCrosse Avenue) and improvements to the U.S. Highway 290 and State Highway 71 in the Oak Hill area (i.e., the Oakhill Parkway).

The CAMPO 2035 Plan includes SH 45 SW from FM 1626 to IH 35 as a preliminary design study, without funds for engineering and construction. Other potential future roadway projects have recently come to the fore in discussions about development of the 2040 CAMPO regional transportation plan. Specifically, requests have been made to model, evaluate and consider funding sources to plan a future extension of SH 45 SW from the current termini at RM 1825 north across Lake Austin to FM 620 in the full purpose limits of the City . SH 45 SW, FM 1626 to IH35, is proposed for modeling in the CAMPO 2040 Plan update process as a 6-lane elevated toll road. These discussions suggest that the preferred alternative is in fact being viewed by some as one component of a larger regional project that would complete the southern and western segments of an outer loop.

Because of the determination that the preferred alternative has independent utility, the scope of the environmental review has been limited to the defined study area. As previously noted, the study area should be expanded to include the extent of the existing arterials and other roadways that were included in travel time modeling. Furthermore, potential environmental impacts of the preferred alternative cannot be fully understood in isolation but rather should be evaluated at a regional scale that includes analysis of the potential cumulative impacts of other potential roadway projects, specifically the aforementioned improvements to MoPac South and the Oak Hill Parkway. All of these projects overlie the BSZ and all have the potential to increase water pollutant loads and degrade the quality of water entering into, withdrawn from, and discharged from the Barton Springs Segment of the Edwards Aquifer.

The proposed roadway only serves to deliver traffic from FM1626 to South MoPac, neither of which are dense residential or commercial nodes. Thus it is clear that SH45 is not independent, but simply a segment of a larger state road network. As such, the City believes these to be connected and/or cumulative actions as defined by 40 CFR Section 1508.25(a) and that a programmatic EIS should be conducted under the Federal NEPA process.

## **7.0 Impacts to Sensitive Karst Features**

It is well-established that the density of major karst recharge features (caves and large sinkholes) in and near the SH45 SW right-of-way are among the highest densities found in the Edwards Aquifer Recharge Zone. It is also well-established scientifically that a significant portion of recharge occurs in upland areas in a diffuse manner, in addition to concentrated recharge at observable karst features. Accordingly, the City has serious concerns about the potential adverse impacts of the preferred alternative on known karst features, on subsurface features that do not have expression on the land surface, and on diffuse recharge in areas altered by the project.

The City appreciates the significant additional field work that has and is being performed by TxDOT to identify and characterize karst features within the right-of-way. However, as previously noted, the DEIS should not have been released prior to the completion of all geological investigations, including particularly the completion of the City's current investigation to determine the extent of the subsurface drainage basin to Flint Ridge Cave, which is discussed below.

The Balcones Canyonlands Preserve system (BCP) was established by the City of Austin and Travis County to protect various rare, threatened, and endangered species. As partners in the BCP, the City and Travis County jointly hold an 'incidental take' permit under the federal Endangered Species Act. By providing species protection on preserve lands, private land development and public infrastructure development in other areas of Travis County is possible without site-specific mitigation and individual incidental take permits.

One of the sinkhole basins that the SH45 right-of-way traverses is the 50-acre catchment area for Flint Ridge Cave. The SH 45 SW ROW passes within 150 feet of the cave entrance and passes over portions of the known subsurface extent of the cave (see attached map of Flint Ridge surface catchment). The cave provides habitat for rare troglobitic karst invertebrates including *Circurina bandida* and *Rhadine austinica*, both of which are listed as species of concern (SOC) under the Balcones Canyonlands Conservation Plan (BCCP) permit. Potentially other SOC have been observed in Flint Ridge Cave during faunal surveys, including *Eidmannella reclusa* and *Speodesmus N. S.*, although further biological investigation is necessary to distinguish the specific species present in the cave. Because of the presence of these species, Flint Ridge Cave is one of 62 caves that are protected under the BCCP permit. If the BCP is unable to protect these species then future listing as endangered or threatened species by the U.S. Fish and Wildlife Service (USFWS) is a possibility. Importantly, the City and Travis County could also incur fines or other expenses for failure to comply with the BCP permit with a likely scenario being that the permit will require amendment, which, in addition to being a potentially lengthy and costly process, could have implications for private land development and public infrastructure development in a large area of western Travis County.

Until recently the proposed SH45 SW was not obligated to comply with the BCCP permit or the federal Endangered Species Act. This is because the species in Flint Ridge Cave are not currently listed by the federal government as endangered or threatened. However, as noted previously, Travis County, Hays County, and Central Texas Regional Mobility Authority have entered into an agreement to jointly fund the proposed project. Because of this funding agreement, in combination with a 1996

agreement between Travis County and the City to create the BCCP, the proposed project appears to now be a County project that must comply with BCCP permit.

Prior to the initiation of the environmental review process for the proposed SH45 SW the City strongly suggested that TxDOT undertake or agree to participate in a study to better delineate the subsurface drainage area of Flint Ridge Cave. As the study was not included in the scope of work for the environmental review, in early 2014 the City decided to undertake the study on its own, which is being conducted by City personnel with specific expertise in this type of analysis. The study involves the use of dye tracers to map subsurface flow patterns in the vicinity of the cave.

The City's primary interest in conducting the study is to ensure that both the City and Travis County remain fully compliant with the terms and conditions of the BCCP permit. The information to be obtained through the study, in combination with available information about surface drainage patterns, is considered essential to understanding the potential risks posed by implementation of the preferred alternative and it is essential to the identification of strategies to avoid, minimize, and/or mitigate potential adverse impacts from roadway construction and operation. While the DEIS proposes design concepts for the preferred alternative to avoid and minimize impacts to Flint Ridge Cave, the City cannot determine whether those concepts will be sufficient to achieve the very high level of protection that is required for a cave listed in the BCCP permit. It is the City's position, therefore, is that a final EIS and record of decision should be delayed until this information is available and is fully considered and incorporated into the EIS. This should include development of more detailed engineering designs of the proposed impact avoidance measures that are described conceptually in the DEIS.

## **8.0 Potential Impacts to the Barton Springs Segment of the Edwards Aquifer**

The City of Austin has previously expressed and continues to have serious concerns about the potential adverse impacts of the preferred alternative on the quantity and quality of recharge to the Barton Springs Segment of the Edwards Aquifer, and to nearby users of water supply from the aquifer and to endangered species at Barton Springs. While these concerns, which are further described below, are discussed in the DEIS, the City does not believe that the analyses represented in the DEIS are sufficient to support the finding that the preferred alternative can be implemented with minimal impact to the natural environment and with no impact to federally list endangered species. As previously noted, any such determination should be withheld until all geological field investigations are completed, particularly the aforementioned study to determine the subsurface drainage area of Flint Ridge Cave. And more specifically, it is premature to conclude that the proposed "avoidance" measures described in the DEIS can be adequately evaluated and properly designed before the completion of the Flint Ridge Cave study and without quantification of the overall loss of aquifer recharge from implementation of the preferred alternative or without quantification of the pollutant loads for constituents other than Total Suspended Solids (TSS).

**Recharge to Barton Springs** - Studies have demonstrated that a high percentage of rainfall in the area of the SH45 SW right-of-way directly recharges the Edwards Aquifer. Roughly two-thirds of the 8,300 segment from Mopac South to Bear Creek cross internal sinkhole drainage basins that supply recharge to the Edwards Aquifer. There are at least fourteen identified caves within one-quarter of a mile of the proposed designated right-of-way (ROW). Additionally, the main channel of Bear Creek downstream of the SH45 SW right-of-way contains swallets (creek-channel sinkholes) that directly recharge the aquifer in the range of 10 to 20 cubic feet per second when the creek is flowing. These swallets are prone to plugging by fine-grained sediment, which reduces recharge and could be irreversible. None of this information was specifically incorporated into the DEIS; although it was provided to TxDOT during the Technical Work Group process.

**Proximity to Local Public and Private Water Supply Wells** - The Barton Springs Zone of the Edwards Aquifer is a designated sole source aquifer under the Federal Safe Drinking Water Act. The SH45 SW right-of-way is also within the City's Drinking Water Protection Zone. There are numerous public and private water supply well systems that lie down-gradient of the right-of-way. Contaminated stormwater runoff has the potential to impact drinking water supplies in portions of Shady Hollow, Copper Hills, SW Territory, and Marbridge Foundation (see attached map of well recovery from 2007 dye tracing). Of note is that the Edwards Aquifer is understood to provide little natural attenuation of contaminants, except by dilution with natural runoff sources (Hauwert, 2009). This information was not considered in determining protective measures outlined in the DEIS.

**Federally-Protected Endangered Species** - As noted, the City of Austin holds an Incidental Take Permit from the U.S. Fish and Wildlife Service (USFWS) for the endangered Barton Springs Salamander (*Eurycea sosorum*) and for the recently listed Austin Blind Salamander (*Eurycea waterlooensis*). Dye tracer studies performed by the City in the vicinity of the SH45 SW right-of-way have demonstrated a strong hydraulic connection with Barton Springs. Four groundwater tracers injected in the vicinity of the intersection of SH45 SW and Mopac South in 2007 and initially arrived at Barton Springs within two to four days. Long-term monitoring indicates that there has been some decline in water quality in the Barton Springs Zone (Mahler et al., 2006; Herrington et al., 2010; Mahler et al., 2011). Any loss of recharge to the aquifer or degradation of water quality as a result of the proposed project would negatively impact these federally-listed endangered species. Any direct or indirect impacts to listed species or their habitat constitutes "take" under the federal Endangered Species Act, which requires authorization from the U.S. Fish and Wildlife Service.

## **9.0 Environmental Compliance Management Plan**

The City is encouraged by the discussions presented in Appendix H (pp. H-20) of the DEIS with regard to an Environmental Compliance Management Plan (ECMP) for the proposed project. From this discussion it appears that TxDOT/CTRMA has embraced many of the elements of the City's Environmental Commissioning (EC) process for the design, construction, and start-up of Water Treatment Plant No. 4. The City's EC process for the water treatment plant was a topic of discussion in the Technical Work Group and in subsequent meetings with CTRMA staff. However, the discussion of the ECMP in Appendix H of the DEIS is lacking specificity and is missing several critically important elements including:

- Acknowledgement that the ECMP is a process that will be employed throughout the design, construction, and start-up of the project that includes an environmental compliance "team" that is independent of but integrated with the design and construction team;
- Acknowledgement that the environmental compliance team will possess the technical capabilities and expertise required to provide effective independent oversight;
- Clearly defined environmental protection goals and measurable performance standards;
- A clear process for incorporation of environmental protection measures into project design and in construction management;
- Environmental monitoring during and after construction to ensure that environmental performance standards are being met; and

An adaptive management process to adjust project plans when goals and standards are not being met or when unanticipated events or conditions occur.

In addition to incorporation of the above elements into the discussion of the ECMP in Appendix H, the City would like to see this discussion in the body of the DEIS along with a commitment by the implementing agency (i.e., CTRMA) to develop and implement a robust environmental compliance process in collaboration with the City.

## **10.0 Monitoring, Assessment, and Adaptive Management**

If the proposed SH45 SW goes forward it is essential that there be a robust ongoing environmental monitoring, assessment, and adaptive management program with clearly defined goals for environmental protection that will ensure full protection of BCP permit caves, City of Austin Water Quality Protection Lands, and the quality of water in nearby water wells, creeks, and at Barton Springs. The purpose of environmental monitoring and assessment is to detect problems early so that adaptive management responses can be implemented in a timely manner. For example, sediment discharges from the roadway and its appurtenances, particularly during construction, may require alterations in temporary and/or permanent stormwater controls and could require periodic physical removal of accumulated sediment to restore impaired aquifer recharge volume. Similarly, hydrologic and habitat conditions in Flint Ridge Cave will need to be monitored in perpetuity to ensure that the cave is not being adversely impacted by the roadway.

The need for and costs of an ongoing environmental monitoring, assessment, and adaptive management program must be addressed in the final EIS. Additionally, there should be a commitment by the implementing agency (i.e., CTRMA) that all reasonable measures will be taken to rectify any problems that are identified through monitoring and assessment, including modifications to facilities and/or alteration of roadway operations.